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REMARKS

Reconsideration and further examination is respectfully requested. As best can be determined by the Applicant, the previous response submitted in response to the final was *not* entered by the Examiner, although the Examiner has failed to check either box on the advisory action.

Claims 1-3, 6-29, 57, 81 and 93-100 were rejected under 35 U.S.C. §102(e) as being anticipated by Baskey et al., U.S. Patent No. 6,148,410 (referred to hereafter as Baskey).

Baskey:

Baskey describes, in the Abstract, a fault tolerant recoverable connection device and method which includes a primary router in an active state and a backup router in a standby state. "The states of the primary and backup routers are switched when the primary router fails, the backup router has a better reach ability state than the primary router, or by an operator command..." (Abstract).

In particular, Baskey describes, at column 2 lines 58-65:

"... One of the two FTR-CRs 100, 105 is in active state, while the other is in standby state. The active FTR-CR is routing requests, while the standby FTR-CR is monitoring the status of the active FTR-CR. The standby FTR-CR does not route requests... Both active and standby FTR-CRs 100 and 105, respectively, contain identical internal tables, such as configuration tables 107, 107' and connection tables 106, 106'..."

At column 3, lines 62 through column 4 lines 8, Baskey describes:

"... Considering the case when the MM 240 at the standby FTR-CR 105 detects that the active FTR-CR 100 has failed, or when an operator enters a command directing the standby MM 240 in the standby FTR-CR 105 to change from the standby state to the active state, then the standby MM 240 commands the standby FTR-CR 105 to become active. The MM 240 of the FTR-CR

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105, which was previously the standby FTR-CR, informs the MM of the FTR-CR 100 to change from the active state to the standby state. *Next, FTR-CR 105 performs IP takeover of Virtual Encapsulated Cluster (VEC) IP addresses.* The MM of the FTR-CR 100 can also be configured so that after recovering from a failure, FTR-CR 100 will resume as active and FTR-CR 105 will return to the standby state...”

At column 4, lines 44-44-48, Baskey describes:

“... The MM, whether integrated 240 or external 240’, detects the failure of the active FTR-CR and activates the standby FTR-CR, which *transparently* replaces the failed FTR-CR. An additional external computer host is not required because the MM can be integrated into each FTR-CR...”

Thus Baskey describes a system which includes a redundant element, i.e., the FTR-CR. The actual failover to the redundant element is “transparent” to the rest of the system.

In contrast, claim 1 of the present invention recites:

“...A method for bypassing a network change by a node in a communication network, the node having a forwarding table, the method comprising ... *pre-determining a recovery path for bypassing a network change that affects communications over a primary path, the recovery path being different from the primary path ... installing the recovery path in the forwarding table simultaneously with the primary path ... detecting the network change that affects communications over the primary path; and switching communications from the primary path to the recovery path in order to bypass the network change...*”

Baskey neither describes nor suggests several limitations of the claims

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In order to support a rejection under 35 U.S.C. §102(e), *every* limitation of the claims must be shown or suggested by the references. The Baskey reference fails this requirement in several respects, as described below.

Claims 1-4 and 6-28:

Applicants respectfully submit that Baskey neither describes nor suggests the steps of “pre-determining a recovery path” and “installing the recovery path” as recited in Claim 1. The Examiner relies on column 3, lines 40-67 in support of this element of the claim. Column 3, lines 40-67, however, merely describes how two redundant FTR-CRs are included in a system, and how, when an active FTR-CR fails, the redundant FTR-CR is swapped in.

The Examiner states, at page 11 of the office action, in response to a previous argument that Baskey does not teach installing the recovery path in a forwarding table:

“... Baskey teaches a method of path recovery where the method detects a router or path failure. Upon detection, the node determines a new path to be used for communication between nodes. A synchronization signal is sent to the nodes to update the change and compensate for the new path. Each router maintains a database of paths used in communication between nodes. Once a change or failure is detected, each router synchronizes and updates the internal database to include the new recovery path (see col. 3 lines 5-54 and col. 4 lines 44-67). The database taught by Baskey is interpreted to be the forwarding table and therefore Baskey meets the scope of the claimed limitation ‘installing the recovery path in a forwarding table.’”

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As best can be determined, it would appear that the Examiner is stating that the active FTR-CR is analogous to the 'primary path', and the redundant FTR-CR is analogous to the 'recovery path.' However, if this is the case, Applicants further note that there is no corresponding step in Baskey for 'installing the recovery path in the forwarding table along with the primary path...'

With regard to the claim 1 limitation of the 'forwarding table', the Examiner directs the Applicants to column 4, lines 54-67, which basically states that the active FTR-CR and inactive FTR-CR have synchronized databases. Applicants can only infer that the Examiner is stating that the databases in the FTR-CRs are analogous to the forwarding table of the claims. However, in making this comparison, the Examiner has failed to give patentable weight to the claimed contents of the forwarding table, namely 'the primary path' and the 'recovery path.' Given the Examiner's interpretation of the 'primary path' as the active FTR-CR and the 'recovery path' as the inactive FTR-CR, it is clear from the reading of Baskey *that pointers to these routers are not stored in the 'forwarding tables' of Baskey.* Applicants note that the tables of the FTR-CR are devoted to downstream communication (i.e., what happens after it leaves the FTR-CR), and thus do not store references to *either* of the Examiner's 'primary' or 'recovery' paths. Thus, the Examiner's statement at page 11 of the office action that 'Once a change or failure is detected, each router synchronizes and updates the internal database to include the new recovery path (see col. 3, lines 5-54 and col. 4 lines 44-67)' is a misinterpretation of Baskey. As best can be determined, the Examiner is then stating that each of the FTR-CRs stores information on how to *route to itself.*

The confusion which results in attempting to map elements of the claims onto Baskey arises because of the clear distinction between Baskey and the claimed invention. Baskey

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describes a system with a redundant *element*, while the present invention is directed to a system having a primary *path* and a recovery *path*, and methods and apparatus for controlling access and use of the paths. In Baskey, if one of the FTR-CRs should fail, and the redundant FTR-CR become active, then this newly active FTR-CR is not reached because of a forwarding table entry in one of the FTR-CRs, but rather, as described at column 4 lines 3-5 by having the 'FTR-CR 105 performs IP takeover of Virtual Encapsulated Cluster (VEC) IP addresses...'

Applicants further note that since the FTR-CR is a redundant copy of the original FTR-CR, then by definition the forwarding tables of each include *identical* forwarding entries, not different paths as recited in the claimed invention.

Accordingly, for at least the reason that Baskey fails to describe or suggest several of the limitations of the claimed invention, Claim 1 is patentably distinct over Baskey, and the rejection should be withdrawn.

Dependent claims 2-4 and 6-28 serve to add further patentable limitations with regard to claim 1. For example, although the Examiner states that Baskey teaches 'establishing as the recovery path a label switched path...' no evidence of such a teaching is found in the reference. With regard to claims 3 and 4, Applicants note that although Baskey teaches forwarding tables, it fails to teach the steps of claim 3 of 'logically introducing the network change into a routing database... and determining the recovery path based upon a pre-determined path determination scheme...' Rather, the 'recovery path' of Baskey is merely the inactive FTR-CR. With regard to claim 6, although Baskey describes 'awaiting a failure', there is no mention or suggestion in Baskey of 'using a fast liveness protocol' as recited in the claim. With regard to claim 11, although the Examiner refers to the tables of Baskey, there is no mention or suggestion of the step of 'removing the primary path from the forwarding table' as stated in the claim.

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The above distinctions provide several examples of the inadequacies of Baskey with regard to dependent claims 2-4 and 6-28, and are not exhaustive as further distinctions could be shown. Suffice it to say that while the dependent claims include further limitations that distinguish them over the cited prior art, they are allowable over Baskey for at least the reasons put forth above with regard to parent independent claim 1.

Claims 29-32 and 34-56:

Independent claim 29 is also patentable over Baskey for reasons similar to those put forth with regard to claim 1. For example, claim 29 recites "...A device for bypassing a network change in a communication network, the device comprising ... a forwarding table ... recovery path logic operably coupled to pre-determine a recovery path for bypassing a network change that affects communications over a primary path *and installing the recovery path in the forwarding table simultaneously with the primary path* ... detection logic operably coupled to detect the network change that affects communications over the primary path; and switching logic operably coupled to switch communications from the primary path to the recovery path in order to bypass the network change...'

As mentioned above with regard to claim 1, Baskey neither describes nor suggests "installing the recovery path in the forwarding table along with the primary path." For at least this reason, claim 29 is patentably distinct over Baskey, and the rejection should be withdrawn. Dependent claims 30-32 and 34-56 serve to add further patentable limitations to claim 29, but are allowable for at least the reason put forth above with regard to claim 29.

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Claims 57-60 and 62-86:

Independent claim 57 is patentably distinct over Baskey, which neither describes nor suggests "...A computer program for programming a computer system to bypass a network change in a communication network, the computer program comprising ... recovery path logic programmed to pre-determine a recovery path for bypassing a network change that affects communications over a primary path and *to install the recovery path in a forwarding table along with the primary path* ... detection logic programmed to detect the network change that affects communications over the primary path; and ... switching logic programmed to switch communications from the primary path to the recovery path in order to bypass the network change..." As mentioned above with regard to claim 1, Baskey neither describes nor suggests "install the recovery path in the forwarding table along with the primary path." For at least this reason, claim 57 is patentably distinct over Baskey, and the rejection should be withdrawn. Dependent claims 58-60 and 62-76 serve to add further patentable limitations to claim 57, but are allowable for at least the reason put forth above with regard to claim 57.

Claims 87-92

Applicants' claim 87 is patentably distinct over Baskey, which neither describes nor suggests "... A communication system comprising a plurality of interconnected communication nodes, wherein primary paths are established for forwarding information, and wherein recovery paths for bypassing network changes that affect communication over the primary paths *are pre-computed and installed in a forwarding table along with the primary paths*..." As mentioned above with regard to claim 1, Baskey neither describes nor suggests "where recover paths are pre-computer and installed in a forwarding table." For at least this reason, claim 87 is patentably

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distinct over Baskey, and the rejection should be withdrawn. Dependent claims 88-92 serve to add further patentable limitations to claim 87, but are allowable for at least the reason put forth above with regard to claim 87.

Claims 93-97:

Applicants' claim 93 is patentably distinct over Baskey, which neither describes nor suggests "...A method for reconverging routes in a communication network, the method comprising: determining that a route change is needed; freezing forwarding tables so that a predetermined set of routes is used during reconvergence; and reconverging on a new set of routes while the forwarding tables are frozen..."

The Examiner states at page 8 of the office action that Baskey teaches 'freezing forwarding tables', but gives no reference to a location in the text where such a limitation is taught or suggested. In fact, it would appear from a careful reading of Baskey that the databases are 'synchronized', and no such 'freezing' of tables in Baskey occurs. Baskey states, at column 4 'This prevents delays in recovery of requests.' For at least the reason that Baskey fails to teach or suggest each element in the claim, the rejection is overcome and should be withdrawn. Dependent claims 94-97 serve to add further patentable limitations to claim 93 but are allowable for at least the reasons put forth with regard to claim 93.

Claims 98-100:

Applicants' claim 98 is patentably distinct over Baskey, which neither describes nor suggests "... A use of a bypass mechanism for bypassing a network change in a communication network, the use comprising: using the bypass mechanism to pre-compute a recovery path for

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bypassing a network change affecting communication over a primary path, install the recovery path in a forwarding table along with the primary path, detect the network change affecting communication over the primary path, and switch communications from the primary path to the pre-computed recovery path upon detecting said network change....” As mentioned above with regard to claim 1, Baskey neither describes nor suggests “install the recovery path in a forwarding table along with the primary path” For at least this reason, claim 98 is patentably distinct over Baskey, and the rejection should be withdrawn. Dependent claims 99 and 100 serve to add further patentable limitations to claim 98, but are allowable for at least the reason put forth above with regard to claim 98.

Rejections under 35 U.S.C. §103

Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Baskey in view of Mann et al, U.S. Patent No. 6,314,093.

The Examiner states, at page 10 of the office action:

“Baskey does not explicitly teach the limitation “the predetermined path determination scheme comprises a shortest-path-first computation.” However, Mann teaches a method of determining a shortest-path between two nodes in a computer network. It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Baskey by incorporating the step of determining a shortest route as taught by Mann because doing so would allow the user to use the most efficient route available and therefore achieving fastest and most efficient communication between two given nodes on a network.”

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Applicants note that the limitation of claim 4 serves to narrow the step of claim 1 which recites "... pre-determining a recovery path for bypassing a network change..." Claim 4 narrows the step of pre-determining to use a shortest-path-first computation.

In order to support a rejection under 35 U.S.C. §103, a motivation for modifying the references should be shown or suggested by the art. Baskey illustrates a redundant system having two routers which are fully redundant. As best can be determined, the inactive router has been characterized as the 'recovery path' of the claims. Applicants submit that one would not be motivated to use any routing computation technique in selecting one device as the redundant device, as the system needs to be closely controlled to ensure accurate redundancy. Accordingly, Applicants disagree that Blakely would be motivated to modify its selection of a recovery path in any manner, as it would only serve to frustrate and complicate its system. For at least the reason that no motivation can be found for the suggested modification, the rejection under 35 U.S.C. §103 is improper and should be withdrawn.

However, even assuming that one would be motivated to modify Baskey to include the teachings of Mann, the combination still does not overcome the inadequacies described with regard to claim 1, since the combination fails to describe or suggest every limitation of the claims. For this additional reason the rejection is improper and should be withdrawn.

Claims 30-56, 58-86 and 88-92

The Examiner states, at page 10 of the office action "claims 30-56, 58-86 and 88-92 do not teach or define any additional limitation over claims 1-29, 57, 87 and 93-100 and are therefore rejected for similar reasons."

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Applicants appreciate that the present application includes many claims, and is time consuming to review. However, because no specific statute or reference has been cited against these claims, it is respectfully submitted that the Examiner's rejection is improper. Applicant respectfully submits that since no statute or art has been cited, the claims are therefore in condition for allowance, and a notice to that effect is hereby solicited.

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Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone the undersigned, Applicants' Attorney at 978-264-6664 so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

1/11/05
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